UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,866	09/08/2000	Dirk P. Gunther	7099-1267	2936

826 7590 01/30/2006

ALSTON & BIRD LLP
BANK OF AMERICA PLAZA
101 SOUTH TRYON STREET, SUITE 4000
CHARLOTTE, NC 28280-4000

EXAMINER	
PORTER, RACHEL L	
ART UNIT	**PAPER NUMBER**
3626	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/658,866
Filing Date: September 08, 2000
Appellant(s): GUNTHER ET AL.

Trent A. Kirk, Reg. No. 54, 223
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/14/05 appealing from the Office action mailed 6/3/05.

A.W

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(8) Evidence Relied Upon

5,652,867	BARLOW et al	7-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-7,11-14, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Barlow (USPN 5,652,867).

As per the limitations of claims 1-4 and 6-7, Barlow teaches a method for optimizing a schedule of legs employed in transporting objects between geographic markets, comprising the steps of:

- identifying a set of itineraries for serving each market in a set of markets, each itinerary comprising one or more legs; (Figure 1; col. 3, lines 45-65)
- generating a set of market plans for each of a plurality of markets (e.g. set of markets), each market plan comprising a modified set of the itineraries for the market, (Figures 2 and 4; col. 4, lines 15-45, lines 33-36; Figures 1-2)

- individually determining the profitability of each market plan for each market, following generation of new set of market plans for each of the plurality of markets (Figs 2,4-5;col. 5, lines 66-col. 6, line 4)
- selecting from the set of market plans for each market a subset optimizing the profit of the schedule, while accounting for the resources of the service provider (col. 3, lines 4-9; lines 46-51), wherein the subset of markets is selected following a determination of profitability for each market plan for each market (Figures 2, 4-5; col. 2, lines 39-47; col. 6, lines 36-46, 56-67)

Barlow further teaches a method that uses a "profitability model" (i.e. a model that assists in determining the profitability of various itineraries) and wherein various parameters may be considered and/or manipulated in determining flight schedules (col. 5, lines 29-46).

As per the limitation of "wherein at least one of the identifying, generating, determining...steps is performed by a computer processor," see Figure 6, which shows the determination of profitability (e.g. revenue potential) of each market plan as a computer generated output.

Claims 11-14 and 16-17 repeat the subject matter of claims 1-4 and 6-7 as a set of computer readable instructions (for causing a computer) to perform the steps recited in claims 1-4 and 6-7. As the underlying process has been shown to be fully disclosed and computer implemented by the teachings of Barlow et al in the above rejection of claims 1-4 and 6-7, it is readily apparent that the Barlow reference includes computer instructions cause a compute to perform the recited functions. As such, these

limitations are rejected for the same reasons provided in the rejection of claims 1-4 and 6-7, and incorporated herein.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5, 8-10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barlow et al (USPN 5,652,867) in view of Official Notice.

As per claim 5, Barlow teaches a method for optimizing schedules and transportation legs as explained in the rejection of claim 1, but does not expressly disclose the use of a mixed integer program in performing these optimization functions. However, it is noted that the use of mixed integer programs for optimization problems is old and well known in the art. At the time of the Appellant's invention, it would have been obvious to one of ordinary skill in the art to incorporate the use of a mixed integer program in the optimization method of Barlow. One would have been motivated to include this feature to efficiently model and process the complex calculations required for the optimization process.

System claims 8-10 repeat the subject matter of claims 1-4 as a set of components capable of performing the functions recited claims 1-4. As the underlying process has been shown to be fully disclosed by the teachings of Barlow et al in the

above rejection of claims 1-4, it is readily apparent that the Barlow reference includes a system to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 1-4 and incorporated herein.

Claim 8 further recites that the system includes a mixed integer program for performing various optimization functions (e.g. subsetting functions). Barlow teaches a system for optimizing schedules and transportation legs as explained in the rejection of claim 1, but does not expressly disclose the use of a mixed integer program in performing these optimization functions. However, it is noted that the use of mixed integer programs for optimization problems is old and well known in the art. At the time of the Appellant's invention, it would have been obvious to one of ordinary skill in the art to incorporate the use of a mixed integer program in the optimization system of Barlow. One would have been motivated to include this feature to efficiently model and process the complex calculations required for the optimization process.

As per claim 15, the limitations of the present claim are addressed by the rejections of claims 5 and 11, and incorporated herein.

(10) Response to Argument

(A) On page 9 of the Appeal Brief, the Appellant argues that Barlow does not teach or suggest "generating a plurality of market plans for each of a plurality of markets and then individually determining the profitability of each market plan for each market" (claims 1 and 11). The Appellant further states that the Barlow '867 reference describes the generation of only a single modified market plan for each market.

In response, the Examiner respectfully disagrees with the Appellant's interpretation of the applied reference. The Barlow reference discloses that the system gathers host and other airline schedule information to compile all travel services provided by all travel service providers in all markets of interest (col. 3, lines 55-65). Barlow also discloses that the method further comprises a (itinerary) generation process (Figure 2; col. 4, lines 15-32) for the various markets. Again, Barlow discloses that the generation process occurs for all flight services offered (i.e. plurality of market plans) for all markets of interest (i.e. a plurality of markets)

As to the Appellant's argument that a single modified solution is obtained in the Barlow, the Examiner again disagrees in the Appellant's interpretation of the reference. Barlow discloses that the system obtains a set of results, removes some of the undesirable results, and executes others. (col. 4, lines 15-20; lines 33-36; Figures 1-2). The Examiner understands this to mean that multiple solutions/results are provided, not just a single solution as suggested by the Appellant. Moreover, Barlow discloses that the system performs analyses and valuations for several market plans for various individual markets. (col. 5, lines 40-col. 6, lines 3)

(B) Appellant argues that the Barlow reference fails to "teach or suggest selecting from the set of market plans for each market the subset optimizing the overall profit of the schedule following the determination of profitability..."

In response, Barlow discloses that the system obtains a set of results, removes some of the undesirable results, and executes others. (col. 4, lines 15-20; lines 33-36;

Figures 1-2). As previously stated, the Examiner understands this to mean that multiple solutions/results are provided, not just a single solution as suggested by the Appellant.

Barlow further teaches a method that uses a "profitability model" (i.e. a model that assists in determining the profitability of various itineraries) and wherein various parameters (e.g. market revenue for a given flight service) may be considered and/or manipulated in determining flight schedules (Figures 2, 4-5; col. 2, lines 39-47;col. 5, lines 29-46; col. 6, lines 36-46). The Examiner understands the series of valuations for each flight service by the travel service providers, as disclosed by Barlow, and the system's ability to focus on the revenue and costs of a selected group of market plans (i.e. a subset) to address the claimed limitations.

(C) Appellant argues that the Barlow reference fails to "teach or suggest selecting a subset of market plans ...'while accounting for resources of a service provider'."

In response, Barlow discloses that the system obtains a set of results, removes some of the undesirable results, and executes others. (col. 4, lines 15-20; lines 33-36; Figures 1-2). As previously stated, the Examiner understands this to mean that multiple solutions/results are provided, not just a single solution as suggested by the Appellant.

Barlow further teaches a method that uses a "profitability model" (i.e. a model that assists in determining the profitability of various itineraries) and wherein various parameters (e.g. market revenue for a given flight service) may be considered and/or manipulated in determining flight schedules (Figures 2, 4-5; col. 2, lines 39-47;col. 5, lines 29-46; col. 6, lines 36-46). The Examiner understands the series of valuations for

each flight service by the travel service providers, as disclosed by Barlow, and the system's ability to focus on the revenue and costs of a selected group of market plans (i.e. a subset) to address the claimed limitations.

Also, the Examiner respectfully submits that the Appellant fails to realize the breadth of the current claim language. For example, while the claim language recites "accounting for resources of a service provider," the current claim does not recite any guidelines or limitations to explain how the claimed invention (system or method) accounts for the resources of a service provider. (e.g. fleet/inventory assessments; customer demands). While the Appellant has cited sections of Appendix B to provide examples of types of resources, it is noted that none of these examples are recited in the current claim language.

As such, the Examiner has interpreted the claim language and applied art accordingly, given the breadth current claim language. Barlow discloses a system that takes into account flight service offered by given travel provider based upon market size, and market share, among factors. (col. 3, lines 46-59; col. 5, lines 61-65)

(D) Appellant argues the Examiner's use of Official Notice, stating that one of ordinary skill in the art would not have been motivated to use a mixed integer program to solve the optimization problem presented Barlow reference.

In response to Appellant's argument that the references fail to show certain features of Appellant's invention, it is noted that the features upon which Appellant relies (i.e., the use of mixed integer programs) are not recited in claims 1 and 11. Although the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, the Appellant acknowledges that the use of a mixed integer program to solve an optimization program is generally well known in the art, the fact noted by the Examiner in the Rejections mailed 7/29/2004 and 6/3/2005.

The Appellant apparent argues that there would have been no motivation to combine a mixed integer program to solve the optimization problem in Barlow because the Barlow reference "does not describe the imposition of constraints upon the possible solutions as would require the solution of an optimization problem and as are imposed by the resource limitations of the service providers set forth by the claimed invention."

It is respectfully that the current language of claimed invention also fails to bring forth such distinctions. As previously discussed, the current claim language fails to detail or recite the resource limitations of the travel service providers and other constraints, which must be considered in order to apply the appropriate optimization strategy and to derive the appropriate solution(s). As to the Appellant's reference to the formulas found in Appendix B of the specification, these limitations were not claimed and as such were not addressed on with prior art.

Furthermore, the Examiner respectfully disagrees the Appellant's interpretation of the Barlow reference, which is an optimization problem. Barlow discloses that the goal

of the method system is to select a set of itineraries (i.e. a subset), which may maximize revenue, or any number of parameters. (col. 2, lines 44-47) Therefore, it is respectfully submitted that the use of a mixed integer program, which the Appellant admits is well known in the art to solve optimization problems (page 12, lines 1-5 of Appeal Brief) is consistent with the optimization problem set forth in the Barlow reference. As stated in the prior art rejection, at the time of the Appellant's invention, it would have been obvious to one of ordinary skill in the art to incorporate the use of a mixed integer program in the optimization method of Barlow. One would have been motivated to include this feature to efficiently model and process the complex calculations required for the optimization process.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Rachel L. Porter

JOSEPH THOMAS
SUPERVISORY PATENT EXAMINER

Conferees:

J.T.

Joseph Thomas, SPE 3626

Sam Sough, SPE 3628

Appeals Conference Specialist